

CLAIMS

What is claimed is:

1. An electrical connector comprising:

an electrical contact comprising an electrically conductive substrate and at least one sealing coating on a first section of the substrate, wherein the sealing coating comprises at least one of chromium and zinc; and

an overmolded electrical connector housing which has been overmolded onto at least a portion of the first section on the sealing coating, wherein the sealing coating prevents a passage from forming at a joint between the contact and the overmolded housing for preventing flow of vapor through the joint.

2. An electrical connector as in claim 1 wherein the conductive substrate comprises a copper alloy.

3. An electrical connector as in claim 1 wherein the housing comprises acetal.

4. An electrical connector as in claim 1 wherein the sealing coating comprises both chromium and zinc.

5. An electrical connector as in claim 1 wherein the sealing coating comprises an electro-deposited coating on the substrate.

6. An electrical connector as in claim 1 further comprising tin plated on at least one second section of the substrate.

7. An electrical connector as in claim 6 wherein the tin is not located between sealing coating and the substrate.

8. A fuel tank electrical connector comprising an electrical connector as in claim 1, wherein the housing is sized and shaped to be mounted to a fuel tank housing.

9. A fuel tank electrical connector comprising:

a plurality of electrical contacts, each electrical contact comprising a substrate member comprised of a copper alloy, a first section having a sealing coating located on the substrate, and at least one second section having a tin coating located on the substrate, wherein the at least one second section comprises a contact area of the contact adapted to make electrical connection with a second electrical connector, and wherein the sealing coating comprises an electro-deposited inorganic coating; and

an overmolded electrical connector housing which has been overmolded onto at least a portion of the first section, wherein the sealing coating is located at junctions between the contacts and the overmolded housing, wherein at least a portion of each of the second sections is located spaced from the junctions for electrical contact with the second electrical connector, and wherein the housing is adapted to be connected to a fuel tank housing.

10. A fuel tank electrical connector as in claim 9 wherein the electro-deposited inorganic coating comprises at least one of chromium and zinc.

11. A fuel tank electrical connector as in claim 10 wherein the electro-deposited inorganic coating comprises both chromium and zinc.

12. A fuel tank electrical connector as in claim 9 wherein the housing comprises acetal.

13. A fuel tank electrical connector as in claim 9 wherein the tin is not located between the sealing coating and the substrate.

14. A fuel tank electrical connector as in claim 9 wherein the tin is selectively electroplated on the substrate.

15. A method of manufacturing an electrical connector comprising steps of:

electro-depositing an inorganic coating to a first section of a plurality of electrical contacts;

plating second sections of the contacts with tin;
and

overmolding a polymer housing onto the contacts, wherein the housing is overmolded onto the contacts with the inorganic coating at junctions between the housing and the contacts to form a seal between the housing and the contacts at the junctions, and wherein the inorganic coating provides adhesion and sealing as the housing cools after overmolded to thereby substantially prevent passages or cracks from forming in the overmolded housing at the junctions.

16. A method as in claim 15 wherein the inorganic coating comprises at least one of chromium and zinc.

17. A method as in claim 16 wherein the inorganic coating comprises both chromium and zinc.

18. A method as in claim 15 wherein tin is not located between the inorganic coatings and the substrates of the electrical contacts.

19. A method as in claim 15 wherein the tin is electroplated onto the substrates of the contacts.

20. A method as in claim 15 wherein the polymer material comprises acetal which is overmolded directly onto the inorganic coating.